Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

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August 24, 2017

Mr. Larry Vincent
Bradford Coatings, Inc.
75 Rogers Street
Lowell, MA 01852

RE: LOWELL
Transmittal No.: X271855
Application No.: NE-17-004
Class: *OP*
FMF No.: 131002
AIR QUALITY PLAN APPROVAL

Dear Mr. Vincent:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Air and Waste, has reviewed your Non-major Comprehensive Plan Application ("Application") listed above. This application concerns the proposed installation and operation of a new coating line which will controlled by an existing regenerative thermal oxidizer (RTO) at your existing facility located at 75 Rogers Street in Lowell, Massachusetts ("Facility"). The submitted application bears the seal and signature of Ms. Laura J. LeFebvre, Massachusetts P.E. No. 46276.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control," regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-O, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

Bradford Coatings, Inc. (the "Permittee") is a specialty coated fabric manufacturer located at 75 Rogers Street, Lowell, Massachusetts. Products coated at the facility are used in various applications including the automotive, marine, industrial, medical, military, aerospace, and commercial markets. Bradford currently operates the following emission units and/or controls devices:

- four (4) coating lines of various capabilities designated as EU-C1, EU-C4, EU-E2, and EU-C2K;
- two coating compound preparation areas designated as EU-URE and EU-INK;
- a regenerative thermal oxidizer (RTO) designated as PCD1;
- a recuperative thermal oxidizer designated as PCD2; and
- a dust collector designated as PCD3 which is associated with PCD2.

Volatile organic compounds (VOC) and hazardous air pollutants (HAPs) emissions from Coating lines EU-C1, EU-C4, and EU-INK are controlled by PCD1. The control efficiency of PCD1 for VOC is greater than 96 percent (%) by weight. The VOC and HAPs emissions from EU-C2K are controlled by PCD2. The control efficiency of PCD2 for VOC is 99% by weight. PCD3 was approved via Approval No. MBR-05-IND-004 to control the particulate matter that was exhausted by PCD2. The VOC and HAPs emissions from EU-URE can be directed to either PCD1 or PCD2 and is dependent on whether EU-C2K is in operation or whether the other processes controlled by PCD1 are in operation.

The existing Facility has potential emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAPs) greater than the applicable major thresholds under 310 CMR 7.00 Appendix C and is operating under Air Quality Operating Permit No. MBR-95-OPP-065R dated June 26, 2012. On December 20, 2016, MassDEP received an Operating Permit Renewal (Transmittal No. X272997) from the Permittee which is currently under review by MassDEP personnel.

The Permittee is proposing to install a new coating line (EU-E3) to allow for higher productivity and varied process abilities that will supplement existing coating operations. The VOC and HAPs emissions from EU-E3 will be captured by a permanent total enclosure (PTE) which will comply with the specifications listed in United States Environmental Protection Agency's (USEPA) Method 204 which outlines criteria for Permanent Total Enclosures (PTEs). The captured emissions will be directed to an existing RTO (PCD1) which currently controls the captured emissions from EU-C1 and EU-C4. However, PCD1 will not have the capacity to receive and control the combined process airflow and emissions from EU-E3, EU-C1, and EU-C4 simultaneously; therefore, the Permittee shall install an electronic interlock system that will allow only two of these three process lines to operate at any given time and only when PCD1 is

meeting its required minimum operating temperature and is properly functioning for the capture and control of VOC and HAPs emissions.

The Permittee evaluated the potential use of PCD2 for the capture and control of VOC and HAPs emissions from EU-E3. However, PCD2 lacked the capacity to handle the process airflow rate from EU-E3. MassDEP has determined that the use of PCD1 as a VOC and HAP control device for EU-E3 and the emission limits specified in Table 2 represent Best Available Control Technology. EU-E3 will be restricted to 2,880 hours of operation per twelve month rolling period.

The Permittee also proposes to decommission the grandfathered, existing uncontrolled coating line, EU-E2, within three hundred sixty five (365) days after the commencement of operation of EU-E3 or no later than October 31, 2018, whichever comes first.

DESCRIPTION OF EU-E3 AND THE PROPOSED INTERLOCK SYSTEM

A new centrifugal blower with a rated capacity of 7,500 standard cubic feet per minute (scfm) will maintain a negative pressure within the PTEs of EU-E3, and will direct the VOC and HAPs containing process air to PCD1 for control. PCD1 has a rated air flow capacity of 37,000 scfm. PCD1 is equipped with a burner which will burn natural gas as the only fuel of use at a designed energy input capacity of 10.0 MMBtu/hr.

Under normal operating conditions, the set point of PCD1 operating temperature will be 1,475 degrees Fahrenheit (^{o}F), in order to maintain the minimum operating temperature of 1,450 ^{o}F, or such other temperature as may be established pursuant to satisfactory compliance testing results as determined by MassDEP. The effective chamber volume of each combustion chamber will provide a minimum retention time of 0.5 second at the minimum operating temperature of 1,450 ^{o}F. Thermocouples will be located within each of the two combustion chambers. A temperature chart recorder and a data logger will continuously monitor and record the actual operating temperature of PCD1 as one (1) minute averages.

The air handling systems for PCD1 will capture 100 percent of the process emissions from the PTEs of EU-C1, EU-C4, and EU-E3. (Note: Only two of these three process lines shall be operated at any given time.) Modifications will be made to PCD1 so that it will provide a minimum VOC destruction efficiency of 97 percent by weight. This will be demonstrated through future compliance testing as specified in Table No. 3, Paragraph No. 8.

The proposed installation of the new coating line (EU-E3) will also be subject to approval as a significant modification under 310 CMR 7.00 Appendix C "Operating Permit Program", but since the Operating Permit Renewal was only recently submitted for review, the review and approval of this significant modification will be performed under the review and approval of the Operating Permit Renewal instead.

The Permittee has indicated that EU-E3 will be subject to the Federal New Source Performance Standards (NSPS) for Flexible Vinyl and Urethane Coating and Printing (40 CFR Part 60 Subpart FFF).

The Permittee has indicated that EU-E3 will be subject to the Federal New Source Performance Standards (NSPS) for Polymeric Coating of Supporting Substrate Facilities (40 CFR Part 60 Subpart VVV).

The Permittee has indicated that EU-E3 will be subject to the Federal National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for the Printing and Publishing Industry (40 CFR Part 63 Subpart KK).

The Permittee has indicated that EU-E3 will be subject to the Federal National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for Printing, Coating, and Dyeing of Fabrics and Other Textiles (40 CFR Part 63 Subpart OOOO).

The Permittee has indicated that EU-E3will not be subject to the Federal National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for Paper and Other Web Coatings (40 CFR Part 63 Subpart JJJJ).

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1			
EU#	**Description**	**Maximum Design Capacity**	**Pollution Control Device (PCD)**
EU-C1	Existing Casting Line C-1 (4 knife over roll coaters, 4 drying ovens)	2,300 yards of coated substrates per hour	Huntington Energy Systems RTO (PCD1)
EU-C4	Existing Casting Line C-4 (4 knife over roll coaters, 4 drying ovens)	1,400 yards of coated substrates per hour	
EU-INK	Existing Mixer No. 30	N/A	
EU-E3	New Estampa, ANJ Machinery (Hang Zhou) Co. Ltd Model AT-EB-560 coating line	2,000 yards of coated substrates per hour	
EU-C2K	Existing Casting Line C2K (4 knife over roll coaters, 1 dip station, 5 drying ovens)	4,000 yards of coated substrates per hour	ABB Preheater, Inc. Model No. 40.OTRG62 recuperative thermal oxidizer (PCD2) and Dustex Corp. Model No. 6314-13-38 dust collector (PCD3)
EU-URE	Existing Urethane compounding department (Mixer Nos. 8, 9, 11, 12, 13, 14, 28, and 29)	N/A	PCD1 is primary and PCD2 is the secondary control device
EU-E2	Existing Finishing Line E-2 (4 gravure coaters, 3 drying ovens)	1,800 yards of printed substrates per hour	N/A

Table 1 Key:
RTO = regenerative thermal oxidizer
EU# = Emission Unit Number
PCD = Pollution Control Device
N/A = Not Applicable

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2 below:

Table 2			
EU#	**Operational / Production Limit**	**Air Contaminant**	**Emission Limit**
EU-E3	Restricted to a maximum of 2,880 operating hours per rolling twelve month period. Air handling systems shall provide a capture efficiency of 100%. (USEPA Method 204) PCD1 shall provide a minimum VOC destruction efficiency of 97 percent by weight.	VOC	1.8 TPM; 7.19 TPY
		Total HAPs	0.7 TPM; 2.61 TPY

Table 2 Key:
EU# = Emission Unit Number
VOC = Volatile Organic Compounds
Total HAPs = total Hazardous Air Pollutants.
TPM = tons per month
TPY = tons per consecutive12-month period
PCD1 = RTO pollution control device
USEPA = United States Environmental Protection Agency

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

Table 3	
EU#	**Monitoring and Testing Requirements**
EU-C1 EU-C4 EU-E3 EU-INK EU-URE	1. Conduct compliance emissions testing for VOC on two of the three EUs (EU-C1, EU-C4, or EU-E3), one of which shall be EU-E3, in conjunction with EU-INK or EU-URE within one hundred twenty (120) days of the commencement of continuous operation of EU-E3. All compliance testing shall be conducted in accordance with the test methods and procedures set forth in 40 CFR 60, Appendix A. All compliance testing shall be witnessed by MassDEP personnel at a mutually agreeable date and time.
	2. Monitor the weekly, calendar month, and twelve month rolling consumption of VOC and HAPs containing materials processed by these EUs to document compliance status with the limitations contained in Table 2 above.
	3. Monitor operations so that only two of the three EUs (EU-C1, EU-C4, or EU-E3) shall be operating simultaneously at any given time.
	4. Within thirty (30) days of the continuous operation of the PCD1, Permittee shall balance the air handling system to ensure that the PTEs for each EU (EU-C1, EU-C4, and EU-E3) meet the criteria of USEPA Method 204 and measure the air flow within the air handling system to ensure that all of the VOC-laden process air is vented to the PCD1. Permittee shall allow MassDEP personnel to witness the documentation of the capture effectiveness of the air handling system.
	5. For compliance testing purposes, the PCD1 and its associated process air capture system shall be constructed so as to accommodate the emissions testing requirements as stipulated in 40 CFR Part 60, Appendix A. The two (2) inlet and two (2) outlet sampling ports should ideally be located at two duct diameters upstream and eight duct diameters downstream of any flow disturbance. The corresponding sampling ports should be 90 degrees apart from each other.
	6. Monitor operations so that a minimum PCD1 combustion chamber temperature of 1,450 degrees Fahrenheit, or such other temperature as may be established pursuant to satisfactory compliance testing results as determined by MassDEP, is achieved prior to ducting of VOC laden air to PCD1. This minimum temperature shall be maintained at all times (in one-minute averages) while any associated emission unit(s) is/(are) producing VOC laden air that can't be recirculated. Temperature monitoring shall include date and time and any necessary description of operational changes that may occur.
	7. Monitor operations so that in the event of PCD1 malfunction, an interlock system shall prevent the uncontrolled operation of EU-C1, EU-C4, and/or EU-E3. Permittee shall cease operating all these emission units until PCD1 is operating properly.

Table 3	
EU#	**Monitoring and Testing Requirements**
EU-C1 EU-C4 EU-E3 EU-INK EU-URE	8. Compliance testing shall be completed on PCD1 and the associated PTEs every three (3) years, or as determined by MassDEP, with the first compliance test commencing within one hundred days (120 days) of commencement of continuous operation of EU-E3. The compliance testing of PCD1 must demonstrate, at minimum, that: a) each applicable enclosure complies with the United States Environmental Protection Agency's (USEPA) Method 204 which outlines criteria for Permanent Total Enclosures; b) the actual VOC capture system complies with the required overall, minimum VOC capture efficiency of 100%; and c) the VOC destruction efficiency of PCD1 is a minimum of 97.0 percent by weight. The compliance testing procedures must follow USEPA and MassDEP methods and guidelines.
	9. Monitor maintenance activities associated with PCD1.
Facility-wide	10. Monitor to ensure that all VOC or HAPs-containing materials such as coatings, solvents, and cleanup solutions, shall be transported and stored in tightly covered containers.
	11. Monitor that all cleaning rags used in conjunction with the VOC containing cleaning solutions shall be placed in tightly covered containers when not in use, and shall be collected for proper recycling or disposal.
	12. Monitor Facility operations so that deviations from Plan Approval requirements can be reported to MassDEP.
	13. Monitor raw material usage each month in order to determine the actual emissions of VOC and HAPs for the month as well as for the prior 11 months for the entire Facility.
	14. Monitor Facility operations such that emissions may be calculated as required for compliance with 310 CMR 7.12.
	15. In accordance with 310 CMR 7.71(1) and Appendix C(9), the Permittee shall establish and maintain data systems or record keeping practices (e.g. fuel use records, SF_6 usage documentation, Continuous Emissions Monitoring System) for greenhouse gas emissions to ensure compliance with the reporting provisions of M.G.L. c. 21N, the Climate Protection and Green Economy Act, St. 2008, c. 298, § 6. (State Only Requirement)

Table 3 Key:
EU# = Emission Unit Number
PCD1 = RTO pollution control device
VOC = volatile organic compounds
PTE = Permanent Total Enclosure
HAPs = hazardous air pollutants
USEPA = United States Environmental Protection Agency
SF_6 = sulfur hexafluoride

Table 4	
EU#	**Record Keeping Requirements**
EU-C1 EU-C4 EU-E3 EU-INK EU-URE	1. Quantify all periods of excess emissions, even if attributable to an emergency/malfunction, startup/shutdown or equipment cleaning in the determination of annual emissions and compliance with the emission limits as stated in Table 2.
	2. Maintain a record keeping system for these EUs to be established on-site. All such records shall be maintained up-to-date such that year-to-date information is readily available for MassDEP examination upon request and shall be kept on site for a minimum of five (5) years. Record keeping shall, at a minimum, include: a) Compliance records sufficient to document the actual monthly and twelve month rolling emission rates of VOC from these EUs, so as to determine compliance status with the emission limitations contained in Table 2 above. Such records shall include, but are not limited to, the daily, monthly, and twelve month rolling emission rates, emissions test results, monitoring equipment data and reports, and hours of operation. b) Maintenance: A record of routine maintenance activities performed on these EUs and their monitoring equipment including, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed. c) Malfunctions: A record of all malfunctions of these EUs and their monitoring equipment including, at a minimum: the date and time the malfunction occurred; a description of the malfunction and the corrective action taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the equipment was returned to compliance.
	3. Maintain records on-site of the weekly, calendar month, and twelve month rolling consumption of VOC and HAPs containing materials processed to document compliance status with the emission limitations contained in Table 2 above.
	4. Maintain records to document that only two of the three EUs (EU-C1, EU-C4, or EU-E3) have operated simultaneously at any given time.
	5. Maintain records documenting actual PCD1 combustion chamber temperature in degrees Fahrenheit. Temperature monitoring shall include the date and any necessary description of operational changes that may occur. The combustion chamber temperature of the PCD1 shall be recorded with temperature monitoring and recording equipment using a digital readout and stored on a computerized hard drive, flash card, disc, or other media. Permittee shall have on-site a temperature data back up to the flash card, disc, or other backup data capture media. These records shall be maintained on-site, and shall be made available to MassDEP personnel upon request.
	6. Maintain records of all malfunctions as defined in the SOMP as well as historical activation of the interlock system associated with PCD1, including corrective actions taken and steps to prevent similar malfunctions from reoccurring in the future.
	7. Maintain records of all emission testing for PCD1.

Table 4	
EU#	**Record Keeping Requirements**
EU-C1 EU-C4 EU-E3 EU-INK EU-URE	8. Maintain a maintenance log for PCD1 which shall record all routine and emergency maintenance work and repairs performed on it, as specified in the SOMP. Said log shall indicate all malfunctions and down time.
	9. Maintain all records of PCD1 operation/malfunction resulting in any associated uncontrolled excess VOC and HAPs emissions.
Facility-wide	10. Maintain adequate records on-site to demonstrate compliance status with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html.
	11. Maintain records of monitoring and testing as required by Table 3.
	12. In accordance with 310 CMR 7.71 (6) (b) and (c), the Permittee shall keep on site at the facility documents of the methodology and data used to quantify emissions for a period of 5 years from the date the document is created. The Permittee shall make these documents available to MassDEP upon request. (State Only Requirement).
	13. Maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EUs and PCDs approved herein on-site.
	14. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s), PCD, and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	15. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s), PCD, and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	16. Maintain records of facility operations such that information may be reported as required for compliance with 310 CMR 7.12.
	17. Maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	18. Make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:
EU# = Emission Unit Number
EUs= emission units
PCDs = Pollution Control Devices

PCD1 = RTO pollution control device
VOC = volatile organic compounds
HAPs= hazardous air pollutants
SOMP = Standard Operating and Maintenance Procedure
USEPA = United States Environmental Protection Agency

Table 5	
EU#	**Reporting Requirements**
EU-C1 EU-C4 EU-E3 EU-INK EU-URE	1. Submit a compliance test protocol on the required initial compliance test to MassDEP's Northeast Regional Office (NERO) for review and approval at least sixty (60) days prior to the scheduled commencement of said testing. Test protocols for any subsequent required emissions testing shall be submitted for review and approval at least forty-five (45) days prior to the scheduled commencement of said testing.
	2. Submit the initial emission test results report to NERO for review within sixty (60) days of the completion of any required compliance stack testing.
	3. In the event of any PCD1 malfunction which results in any uncontrolled excess VOC emissions, notify MassDEP by telephone within three (3) business day and subsequently in writing within ten (10) days of said occurrence. This written notification shall describe the reason(s) for and the extent of down time of the equipment and all steps that have been or will be taken to prevent similar malfunctions from occurring in the future.
EU-E3	4. Notify NERO, in writing, within fourteen (14) days of commencement of operation of this EU.
Facility-wide	5. Submit the Final Standard Operating and Maintenance Procedures (SOMP) for these EUs and PCD1 to NERO within sixty (60) days of completion of their required initial compliance testing. Any subsequent changes to the SOMP shall be submitted within fifteen (15) days of said revision(s).
	6. Notify MassDEP's NERO by telephone, fax, or email as soon as possible, but in any case no later than three (3) business days, and subsequently in writing within ten (10) business days, after the occurrence of any upsets or malfunctions to these EUs and related equipment which results in an excess emission to the air and/or a condition of air pollution.
	7. All notifications and reporting required and not specified by this Approval shall be made to: Department of Environmental Protection/Bureau of Air and Waste 205B Lowell Street Wilmington, Massachusetts 01887 ATTN: BAW Permit Chief Phone: 978-694-3200 Fax: 978-694-3499

Table 5	
EU#	**Reporting Requirements**
Facility-wide	8. A semi-annual report of the VOC and HAPs emissions data for the period of January 1 through June 30 inclusive and for the period of July 1 through December 31 inclusive must be submitted to the MassDEP, attention Permit Chief for the Bureau of Waste Prevention, by no later than the following July 30th and January 30th, respectively.
	9. Accurately report the Facility's air emissions on Source Registration/Emission Statement Forms as required by Regulation 310 CMR 7.12.
	10. In accordance with 310 CMR 7.71(5), the Permittee shall electronically submit and certify by April 15th of each year a greenhouse gas emissions report to MassDEP. (State Only Requirement).
	11. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	12. The Permittee shall notify the Northeast Regional Office of MassDEP, BAW Permit Chief by telephone (978-694-3200), email, nero.air@state.ma.us, or fax (978-694-3499), as soon as possible, but no later than three (3) business days after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within ten (10) business days and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).

Table 5 Key:
EU# = Emission Unit Number
EU = emission unit
NERO = Northeast Regional Office
BAW = Bureau of Air and Waste
VOC = volatile organic compounds
HAPs= hazardous air pollutants

4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

A. The Permittee shall comply with the Special Terms and Conditions as contained in Table 6 below:

Table 6

EU#	Special Terms and Conditions
EU-C1 EU-C4 EU-E3	1. Establish and maintain documentation and adhere to the criteria for VOC capture efficiency - U.S. EPA Method 204 for permanent total enclosures (PTEs) for these emission units. The criteria for a PTE are the following: a) All access doors and windows are closed during normal operation. b) The interior of the PTE is under negative pressure to the outside environment. c) The average velocity through the natural draft openings (NDOs) must be greater than 200 feet per minute. d) Sources of VOC in the PTE must be at least four (4) equivalent diameters from each NDO. e) The total area of all NDOs must be less than five (5) percent of the total area of the enclosure. The above procedures shall be incorporated into Permittee's Standard Operating and Maintenance Procedure (SOMP) for these emission units.
	2. Establish and maintain a copy of the full PTE site-specific test plan on-site. The test plan should contain the following: a) A description of how Permittee will demonstrate that, within the PTE, the VOC concentrations shall be maintained and not rise or exceed safe Occupational Safety & Health Administration (OSHA) levels. Method 204 lists the requirements for such levels; b) A full explanation of any possible natural draft openings (NDOs) and how they might affect the overall certification of the PTE; c) A description of how Permittee will monitor to verify that the PTE will meet either inward flow to the PTE or negative pressure in the PTE; and d) A calculation of the PTE area ratios as required in Method 204. This plan shall be made available to MassDEP personnel upon request.
EU-C1 EU-C4 EU-E3 EU-INK EU-URE	3. Maintain documentation on the actual VOC capture and control efficiency of PCD1 of the most recently performed compliance test.
	4. Operate the subject EUs consistent with the Final SOMP and the conditions/parameters established from each compliance test.
	5. PCD1 shall provide a minimum control efficiency of 97.0 weight percent for VOC. All associated permanent total enclosures (PTEs) shall provide 100 percent capture efficiency based on conformance to Method 204.

Table 6	
EU#	**Special Terms and Conditions**
EU-C1 EU-C4 EU-E3 EU-INK EU-URE	6. There are five (5) upset conditions for which the associated emission units being controlled by PCD1 shall immediately be shut down. These conditions are as follows: a) thermal oxidizer fan failure; b) thermal oxidizer combustion chamber exceeding 1950 ^{o}F or manufacturer's specification; c) hydraulic system (i.e. pumps, etc.) pressure loss; d) loss of burner gas pressure, gas service interruption, or flame out; and/or e) general system or PCD1 power failure.
	7. A copy of the Standard Operating and Maintenance Procedure (SOMP) for PCD1 shall be located at or nearby the system's control panel.
	8. The start-up specifications and maintenance procedures for PCD1 shall be established and incorporated into its SOMP. The SOMP shall address the spare parts inventory and back-up equipment systems for the PCD1 to prevent or reduce any downtime PCD1. In addition, a copy of any subsequent revisions made to the SOMP must be submitted to this office within fifteen (15) days of the documented modification(s).
	9. An electronic interlock system shall prevent or interrupt the introduction of material to any emission unit requiring control by PCD1 until the PCD1 achieves and maintains the minimum operating temperature of 1,450^{o}F (or such other temperature as may be established pursuant to satisfactory compliance testing results as determined by MassDEP).
	10. The electronic interlock system associated with PCD1 shall also prevent the process air from EU-URE from being directed to PCD1 whenever EU-C1 and EU-C4 are operating in conjunction with EU-INK. Under this situation, EU-URE shall be directed to PCD2 for control, or not operated.
EU-E2	11. Within three hundred sixty five (365) days of the commencement of operation for EU-E3 or no later than October 31, 2018 whichever comes first, the Permittee shall discontinue and decommission EU-E2 at its facility.
	12. The Permittee shall provide written notification to MassDEP/NERO within fourteen (14) days of the decommissioning of EU-E2.
EU-E3	13. EU-E3 shall not be operated without control by PCD1.
Facility-wide	14. This Facility may be subject to the Federal New Source Performance Standards (NSPS) for Flexible Vinyl and Urethane Coating and Printing (40 CFR Part 60 Subpart FFF). There may be additional notification and record keeping requirements.
	15. This Facility may be subject to the Federal New Source Performance Standards (NSPS) for Polymeric Coating of Supporting Substrate Facilities (40 CFR Part 60 Subpart VVV). There may be additional notification and record keeping requirements.
	16. This Facility may be subject to the Federal National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for Printing and Publishing Industry (40 CFR Part 63 Subpart KK). There may be additional notification and record keeping requirements.
	17. This Facility may be subject to subject to Federal National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for Printing, Coating, and Dyeing of Fabrics and Other Textiles (40 CFR Part 63 Subpart OOOO). There may be additional notification, record keeping and reporting requirements.

Table 6 Key:

EU# = Emission Unit Number
EPA = Environmental Protection Agency
VOC= Volatile Organic Compounds
PCD1 = Pollution Control Device – Regenerative Thermal Oxidizer

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as "shanty caps" and "egg beaters." The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7 below, for the Emission Units that are regulated by this Plan Approval:

Table 7[1]

EU#	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Minimum Stack Gas Exit Velocity (feet per second)	Stack Gas Exit Temperature (^{o}F)
EU-C1 EU-C4 EU-E3	43	5	26	350

Table 7 Key:

EU# = Emission Unit Number
^{o}F = Degree Fahrenheit
PCD1 = Pollution Control Device – Regenerative Thermal Oxidizer

Table 7 Note:
[1] Stack information provided in this table pertains to PCD1 which currently services EU-C1 and EU-C4, and will service EU-E3.

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).

B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.

D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.

H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.
MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Should you have any questions concerning this Plan Approval, please contact Mr. Mun Wong by telephone at 978-694-3286, or in writing at the letterhead address.

Sincerely,

Edward J. Braczyk
Acting Permit Chief
Bureau of Air and Waste

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Mun S. Wong
Environmental Engineer

cc: Board of Health, 341 Pine Street, Lowell, MA 01851
Fire Headquarters, 99 Moody Street, Lowell, MA 01852
DEP, Boston, Yi Tian (e-copy)
MassDEP/NERO - Ed Braczyk, Mary Persky (e-copy)
MassDEP/NERO - Martha Bolis (hard copy & e-copy)
TRC Environmental Corporation, 650 Suffolk Street, Lowell, MA 01854
ATTN: Mr. Phil Kuszpa

Susan Ruch, Deputy Regional Director, MassDEP NERO/BAW
Email: susan.ruch@state.ma.us